5. IRON MATTERS

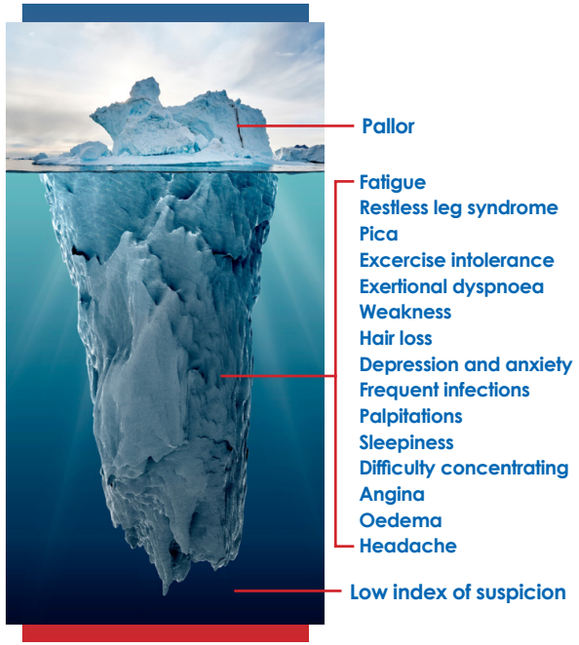
You require iron for a number of important processes in the body:

- Production of Hb (two thirds of the iron in the body is found in Hb of red cells).
- Production of energy.
- Healthy structure and functioning of the nervous system.

Iron deficiency is a health-related condition in which iron availability is insufficient to meet the body's needs and which can be present with or without anaemia.

Iron deficiency progresses in a stepwise manner with anaemia being a late stage. If you have any of the following symptoms - even in the absence of anaemia/low Hb, then you should have your iron profiles measured.

CHECK IRON PROFILES



It is especially important for a mother to have good iron stores throughout pregnancy.

Ideally pregnancy planning must ensure normal iron stores and folate levels before conception.

Restriction of iron during critical periods of the baby's development result in permanent structural changes to the brain that cannot be reversed with replacement.

These changes can have long term impact on the function of the brain and social behaviour.

6. ROLE OF TRANSFUSION IN TREATING A LOW Hb:

A blood transfusion is considered a "liquid organ transplant" and is associated with a number of adverse effects. The risks are per unit of blood transfused. Therefore, transfusions should not be given as a quick fix.

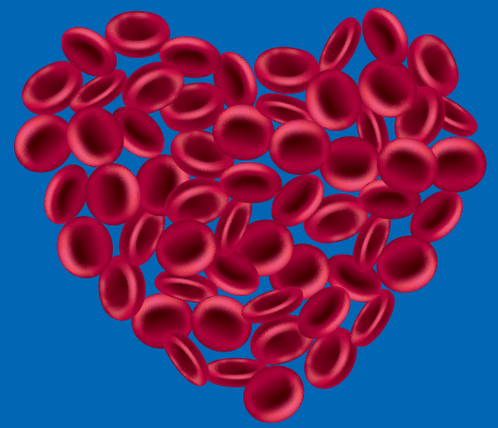
The decision to transfuse must be well considered, taking into account:

- The cause of the anaemia.
- The severity of anaemia specifically the impact on the heart and on other conditions that you may have.
- The attending doctor must discuss the need for transfusion, the benefits and risk, the alternatives to transfusion and impact of refusal with the patient or the family.
- The benefit must outweigh the risk - as with any other medical treatment. As a general guideline - if the clinical condition permits and a clear indication exists, then only a unit at time should be transfused and the clinical response assessed.

TAKE HOME MESSAGE

Maintaining and optimizing blood health has been shown to have a significant positive effect on general quality of life, productivity and overall cost of your healthcare.

KNOW YOUR Hb IRON MATTERS



YOUR RESULTS ARE AVAILABLE ON THE AMPATH APP

onelink.to/ampath

Available on the iPhone App Store

GET IT ON Google Play

KNOW YOUR Hb

The health of the blood contributes to the health of all other organs and must be optimised in the individual whenever possible.

PATIENTS ARE AT THE HEART OF EVERYTHING WE DO

ampath.co.za

AMPATH LABORATORIES

1. WHAT DOES "Hb" REFER TO?

Hb is the abbreviation for haemoglobin, an iron containing protein found in red blood cells, which gives blood its characteristic colour.

Haemoglobin/Hb is responsible for carrying oxygen from the lungs to all the tissues in the body and carbon dioxide from tissues to the lungs.

A low Hb is referred to as anaemia.

Hb levels vary according to age, gender and altitude.

2. WORLD HEALTH ORGANIZATION (WHO) Hb THRESHOLDS:

Adult male Hb 13g/dl or higher.
Adult female Hb 12g/dl or higher.
Preoperative: Hb must be at least 13g/dl for both males and females especially where blood loss > 500mls is anticipated.

Pregnancy

First trimester Hb > 11.
Second trimester (>12 weeks) Hb >10.5.
Post partum (after delivery) Hb > 10.

3. WHY HAS WHO DECLARED ANAEMIA A PUBLIC HEALTH ISSUE?

Anaemia/Low Hb affects up to a third of the world's population, predominantly female.

The most common cause of anaemia remains iron deficiency.

The South African national health and nutrition examination survey (2014) found anaemia in:

- 1 in 5 adults.
- 22 - 44% in women of reproductive age (12-49yrs).
- 43,7% of pregnant females.
- 10,7% of children <5.
- 50% of patients planned for non-urgent surgery.

Consider the impact of low Hb on your health:

1. Isolated anaemia causes:
   - Cognitive dysfunction i.e. problems with a person's ability to learn, remember and make decisions.
   - Fatigue.
   - Headaches.
   - Emotional instability.
   - Depression.
   - Restless leg syndrome.

2. In patients with co-existing cardiac problems:
   - Presence of anaemia increases morbidity and mortality in chronic heart failure and those having cardiac surgery.

3. In pregnancy anaemia results in:
   - Reduced physical activity, cognitive performance and immunological function.
   - Increased risk of morbidity (death) and mortality from peripartum haemorrhage. The lower the Hb, the higher the risk.

Anaemia in pregnancy impacts on the developing baby causing low birth weight, infection, increased risk of death; neurocognitive alterations.

4. In children and adolescents studies show impaired brain processing functions including concentration.

5. In hospitalised patients there is an increase in:
   - Death rates.
   - Hospital acquired infection.
   - Acute kidney injury.
   - Stroke.
   - Heart attacks.
   - Hospital and ICU length of stay.
   - The possibility of inappropriate blood transfusion which carries its own set of risks.

6. People living with HIV:
   - Anaemia increases risk of death in this group and correction of anaemia will improve quality of life. Around 72% of the approximately 8,2 million people living with HIV in South Africa are anaemic.

The evidence is that anaemia/low Hb has potential to increase severity and complications of most other conditions. Therefore, medical staff must make every effort to preserve and optimize a patient's blood. This form of medical care is called Patient Blood Management (PBM).

4. HOW IS A LOW Hb/ANAEMIA MANAGED?

A thorough history and examination together with basic laboratory evaluation is important to:

- Determine the impact of the low Hb on your heart (severe anaemia can cause heart failure) and on any other conditions that you may have.
- Determine further investigation to establish the cause so that specific treatment can be offered to the individual patient.

Some of the aspects to be covered in history taking:

- Symptoms of fatigue, irritability, headache and palpitations.
- Diet - any restrictions (e.g. vegetarian); intake of tea, coffee and high cereal use.
- Medication – metformin; non-steroidal anti-inflammatory, antacids; proton pump inhibitors; traditional and alternative products.
- Presence of a bleeding tendency (whether inherited or acquired).
- Blood donation and any deferral from donation.
- Family history of blood disorders; gastrointestinal cancers.
- Overt blood loss from the gut; peptic ulcers; haemorrhoids.
- Previous gastric surgery.
- Chronic conditions (kidney, cardiac or liver disease)
- Previous obstetric history - number of pregnancies; antenatal care; undue bleeding; iron supplementation.

Regular monitoring is important during treatment to ensure that you are responding appropriately. In the case of iron deficiency management will include iron replacement and treatment of the cause of deficiency (e.g. poor dietary practice; blood loss from specific site).